

## Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



177, 1  
F76220  
C3



United States  
Department of  
Agriculture

Forest Service

Northeastern  
Research Station

Research Note NE-371



# Bulletin of Hardwood Market Statistics: 1999

David Emanuel  
Carol Rhodes

USDA LIBRARY  
NAT'L AGRIC LIBRARY  
2001 AUG 18 A 11:16  
FOREST SERVICE  
RESEARCH

---

## Abstract

Provides current and historical information on primary and secondary hardwood products, production, prices, international trade, and employment.

---

## Introduction

Data contained in this bulletin are intended to provide a general overview of recent trends in the hardwood market for use by hardwood-related industries, forest managers, the academic community, and the general public. The statistics presented in this bulletin are not inclusive. Specific series were selected on the basis of their availability and completeness, and were derived from a variety of sources. Questions about data collection procedures should be directed to the issuing agency or organization.

The import and export data for hardwood logs, lumber, veneer, and plywood reported here are reproduced in their entirety as received from the U.S. Department of Commerce, Bureau of the Census. Reporting errors have occurred in the

past due to coding and computing program errors and changes in tariff systems. For information on these errors, see Luppold (1995). Readers interested in export and import data are encouraged to reference additional sources when evaluating international trade statistics. For additional information on the international trade series presented here, please contact Bruce Hansen at 304-431-2739.

Readers interested in price data for specific subregions of the domestic hardwood market are encouraged to contact state forestry officials for information on local market conditions.

Your input is critical in helping us make this bulletin more useful. We welcome comments or suggestions on additional data series to include or different breakdowns of the data currently reported. Copies of this bulletin are free upon request. Send your comments and requests to David M. Emanuel at the address below.

---

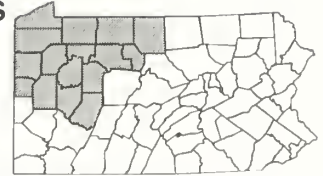
DAVID EMANUEL AND CAROL RHODES are members of the economics of eastern forest use unit at the Northeastern Research Station, Forestry Sciences Laboratory, 241 Mercer Springs Road, Princeton, WV 24740.

## Tables Included in This Series of Reports and Frequency of Update

Number	Title	Frequency of update
<b>Hardwood Stumpage, Log, and Lumber Prices</b>		
1	Average hardwood stumpage prices in northwestern Pennsylvania, 1994-99	Quarterly
2	Average hardwood stumpage prices in Missouri, statewide, 1994-99	Quarterly
3	Average hardwood stumpage prices in Maine, statewide, 1993-98	Yearly
4	Average hardwood stumpage prices in the northern and delta and river regions of Mississippi, 1994-99	Bi-monthly
5	Average hardwood stumpage prices in Ohio, statewide, 1994-99	Bi-annual
6	Average hardwood mill prices of grade 1 logs in northwestern Pennsylvania, 1994-99	Quarterly
7	Average hardwood mill prices of grade 1 logs in Missouri, statewide, 1994-99	Quarterly
8	Average hardwood mill prices of grade 1 logs in eastern Tennessee, 1994-99	Quarterly
9	Average hardwood mill prices in the northern and delta and river regions of Mississippi, 1994-99	Bi-monthly
10	Average hardwood mill prices of red oak logs in Ohio, statewide, 1994-99	Bi-annual
11	Air-dried hardwood lumber prices, 1994-99	Quarterly
12	Kiln-dried hardwood lumber prices, 1994-99	Quarterly
<b>Hardwood Product Prices, Production, and Employment</b>		
13	Producer price indexes for selected wood industries, 1994-99	Quarterly
14	Value of domestic wood furniture shipments and wood furniture imports, 1992-97	Yearly
15	Production of oak strip flooring, 1994-99	Yearly
16	Employment in selected wood-using industries, 1994-99	Quarterly
<b>International Hardwood Product Trade</b>		
17	International exchange rate, foreign currency per U.S. dollar, 1994-99	Quarterly
18	Volume and value of U.S. hardwood log exports, by region, 1994-99	Quarterly
19	Volume and value of U.S. hardwood lumber exports, by region, 1994-99	Quarterly
20	Volume and value of U.S. hardwood veneer exports, by region, 1994-99	Quarterly
21	Volume and value of U.S. hardwood plywood exports, by region, 1994-99	Quarterly
22	Volume and value of U.S. hardwood log imports, by region, 1994-99	Quarterly
23	Volume and value of U.S. hardwood lumber imports, by region, 1994-99	Quarterly
24	Volume and value of U.S. hardwood veneer imports, by region, 1994-99	Quarterly
25	Volume and value of U.S. hardwood plywood imports, by region, 1994-99	Quarterly
26	Value of U.S. wood furniture imports, by region, 1994-99	Quarterly
27	Volume and value of U.S. exports of nonconiferous chips, by region, 1994-99	Quarterly

## HARDWOOD STUMPAGE, LOG, AND LUMBER PRICES

**Table 1.--Average hardwood stumpage prices in northwestern Pennsylvania, 1994-99**  
(Dollars/Mbf, International 1/4" scale)



Year/quarter	Red oak	White oak	Black cherry	Hard maple	Soft maple	Yellow-poplar
1994	519	243	891	221	136	119
1995	499	232	813	190	123	128
1996	487	227	790	195	110	112
1997	514	227	978	297	163	131
1998/1	502	230	1,084	340	185	126
1998/2	528	225	1,020	271	158	123
1998/3	562	191	1,366	331	191	118
1998/4	489	218	942	271	167	96
1998 avg.	520	216	1,103	303	175	116
1999/1	449	196	977	258	155	107
1999/2	467	187	1,362	296	197	138
1999/3	589	241	1,449	369	197	139
1999/4	513	245	1,599	330	179	150
1999 avg.	504	217	1,347	313	182	133

Source: Cooperative Extension Service, U.S. Department of Agriculture, The Pennsylvania State University.



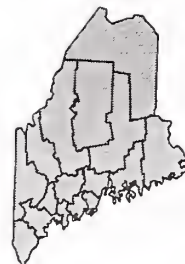
**Table 2.--Average hardwood stumpage prices in Missouri, statewide, 1994-99**  
(Dollars/Mbf, International 1/4" scale)

Year/quarter	Red oak	White oak	Ash	Hard maple	Soft maple	Mixed hardwoods
1994	154	144	158	50	90	104
1995	175	142	129	NA	NA	94
1996	146	151	185	NA	NA	114
1997	165	146	NA	NA	NA	86
1998/1	200	150	140	NA	270	140
1998/2	160	155	NA	NA	NA	140
1998/3	175	165	NA	NA	90	120
1998/4	225	230	50	200	NA	145
1998 avg.	190	175	NA	NA	NA	136
1999/1	175	220	80	160	130	125
1999/2	145	135	120	180	125	105
1999/3	170	235	190	NA	150	240
1999/4	195	290	130	NA	400	120
1999 avg.	171	220	130	NA	201	147

NA - Not available

Source: Missouri Department of Conservation, Forestry Division.

**Table 3.--Average hardwood stumpage prices in Maine, statewide, 1993-98**  
(Dollars/Mbf, International 1/4" scale)



Year	Red Oak	Yellow Birch	White ash	Hard maple	Soft Maple
1993	176	73	121	91	54
1994	219	96	118	103	53
1995	241	99	126	115	56
1996	257	109	130	136	63
1997	244	113	126	159	77
1998	246	120	123	157	83

Source: Management and Utilization Division, Maine Forest Service.

**Table 4.--Average hardwood stumpage prices in the northern and delta and river regions of Mississippi, 1994-99**  
(Dollars/Mbf, Doyle scale)



Year	North		Delta and River	
	Oak	Mixed hardwoods	Oak	Mixed hardwoods
1994	214	138	306	128
1995	220	143	292	138
1996	225	147	317	128
1997	246	178	NA	139
1998:				
Jan-Feb	320	190	375	149
Mar-Apr	312	212	360	158
May-Jun	295	201	352	176
Jul-Aug	298	200	365	146
Sep-Oct	293	176	370	145
Nov-Dec	290	170	385	151
1998 average	301	191	368	154
1999:				
Jan-Feb	321	177	391	158
Mar-Apr	283	162	381	131
May-Jun	290	184	362	153
Jul-Aug	290	180	355	161
Sep-Oct	290	205	367	178
Nov-Dec	300	191	360	175
1999 average	296	183	369	159

NA - Not available.

Source: Cooperative Extension Service, Mississippi State University, Mississippi State.

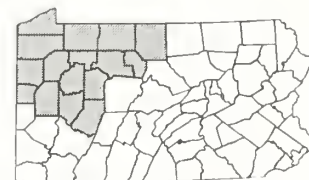
**Table 5.--Average hardwood stumpage prices in Ohio,  
statewide, 1994-99**  
(Dollars/Mbf, Doyle scale)



Year/season	White oak	Red oak	Cherry	Yellow-poplar
1994/spring	324	374	442	213
1994/fall	347	443	636	225
1995/spring	340	415	525	210
1995/fall	295	350	410	180
1996/spring	310	350	425	170
1996/fall	395	420	585	190
1997/spring	295	335	430	180
1997/fall	320	365	485	180
1998/spring	305	335	470	195
1998/fall	340	485	690	210
1999/spring	340	435	665	205
1999/fall	330	440	640	225

Source: Ohio Agricultural Statistics Service, Columbus, OH.

**Table 6.--Average hardwood mill prices of grade 1 logs in  
northwestern Pennsylvania, 1994-99**  
(Dollars/Mbf, International 1/4" scale)



Year/quarter	Red Oak	White Oak	Black cherry	Hard maple	Soft maple	Yellow-poplar
1994	555	483	710	352	232	756
1995	560	366	734	343	193	174
1996	504	370	654	343	205	195
1997	516	359	702	412	257	178
1998/1	717	417	1,275	638	408	282
1998/2	607	319	939	428	297	181
1998/3	524	273	782	377	277	166
1998/4	538	271	867	390	268	162
1998 avg.	597	320	966	458	313	198
1999/1	524	339	922	389	254	155
1999/2	509	277	900	394	258	162
1999/3	478	263	897	438	248	162
1999/4	524	277	973	468	265	170
1999 avg.	509	289	923	422	256	162

Source: Cooperative Extension Service, U.S. Department of Agriculture, The Pennsylvania State University.



**Table 7.--Average hardwood mill prices of grade 1 logs in Missouri, statewide, 1994-99**  
(Dollars/Mbf, International 1/4" scale)



Year/quarter	Red Oak	White Oak	Cherry	Ash	Soft maple	Black walnut
1994	362	332	422	295	252	543
1995	362	315	383	284	225	609
1996	340	315	398	253	254	484
1997	445	424	519	376	398	611
1998/1	460	400	515	380	410	590
1998/2	370	320	345	295	320	370
1998/3	365	330	420	270	320	360
1998/4	410	350	395	320	310	440
1998 avg.	401	350	419	316	340	440
1999/1	430	430	455	340	340	445
1999/2	425	375	635	365	505	405
1999/3	385	355	600	340	275	580
1999/4	450	415	845	420	620	455
1999 avg.	422	394	634	366	435	471

Source: Missouri Department of Conservation, Forestry Division.

**Table 8.--Average hardwood mill prices of grade 1 logs in eastern Tennessee, 1994-99**  
(Dollars/Mbf, Doyle scale)



Year/quarter	Red oak	White Oak	Walnut	Ash	Hard maple	Yellow-poplar
1994	775	700	500	563	375	338
1995	775	700	500	588	363	363
1996	713	638	500	550	350	325
1997	713	663	500	550	400	350
1998/1	713	663	500	550	400	350
1998/2	713	663	500	550	400	350
1998/3	751	675	500	550	438	375
1998/4	750	675	500	550	437	375
1998 avg.	732	669	500	550	419	362
1999/1	750	675	500	500	437	375
1999/2	700	625	500	500	437	325
1999/3	675	575	500	475	437	300
1999/4	775	600	500	475	437	425
1999 avg.	725	619	500	487	437	356

Source: The Tennessee Division of Forestry, Utilization Section.





**Table 9.--Average hardwood mill prices in the northern and delta and river regions of Mississippi, 1994-99**  
(Dollars/Mbf, Doyle scale)

Year	North		Delta and River	
	Oak	Mixed hardwoods	Oak	Mixed hardwoods
1994	314	224	392	188
1995	306	212	414	214
1996	306	212	414	214
1997	326	233	403	227
1998:				
Jan-Feb	380	283	455	237
Mar-Apr	385	280	448	240
May-Jun	370	275	400	245
Jul-Aug	380	250	425	230
Sep-Oct	388	243	429	240
Nov-Dec	375	240	425	245
1998 avg.	380	262	430	239
1999:				
Jan-Feb	385	250	448	249
Mar-Apr	375	240	440	225
May-Jun	371	245	437	231
Jul-Aug	365	241	430	237
Sep-Oct	370	260	425	251
Nov-Dec	377	260	425	255
1999 avg.	374	249	434	241

Source: Cooperative Extension Service, Mississippi State University.



**Table 10.--Average hardwood mill prices of red oak logs in Ohio, statewide, 1994-1999**  
(Dollars/Mbf, Doyle scale)

Year/season	Average all grades	Grade 1 16 inches	Grade 1	Grade 2	Grade 3
1994/spring	460	731	461	284	150
1994/fall	472	884	546	305	157
1995/spring	450	800	510	290	125
1995/fall	475	780	470	280	130
1996/spring	425	690	460	255	135
1996/fall	520	855	540	295	140
1997/spring	470	795	515	305	145
1997/fall	440	745	430	245	145
1998/spring	470	740	420	275	165
1998/fall	500	800	515	315	160
1999/spring	460	805	540	275	145
1999/fall	510	855	615	305	155

Source: Ohio Agricultural Statistics Service, Co

**Table 11.—Air-dried hardwood lumber prices, 1994-99**  
(Dollars/Mbf)

Year/quarter	4/4 Appalachian red oak 1C	4/4 Poplar 1C	4/4 Cherry 1C	4/4 Northern hard maple 1C	4/4 Northern soft maple 1C
1994	800	425	1,040	731	561
1995	728	370	979	699	524
1996	705	349	845	698	493
1997	733	424	878	808	590
1998/1	775	425	940	860	620
1998/2	775	410	1,045	860	620
1998/3	775	395	1,065	860	610
1998/4	775	390	1,120	860	590
1998 avg.	775	405	1,043	860	610
1999/1	775	380	1,135	860	580
1999/2	775	380	1,135	860	570
1999/3	775	380	1,135	860	555
1999/4	780	410	1,135	910	570
1999 avg.	776	387	1,135	872	569

Source: By permission from the Hardwood Market Report, Memphis, TN.

**Table 12.—Kiln-dried hardwood lumber prices, 1994-99**  
(Dollars/Mbf)

Year/quarter	4/4 Appalachian red oak 1C	4/4 Poplar 1C	4/4 Cherry 1C	4/4 Northern hard maple 1C	4/4 Northern soft maple 1C
1994	1,043	579	1,457	987	775
1995	957	515	1,315	958	719
1996	996	499	1,068	984	686
1997	1,063	587	1,131	1,123	792
1998/1	995-1,140	535-585	1,180-1,320	1,085-1,175	790-840
1998/2	1,020-1,155	510-560	1,395-1,535	1,085-1,175	770-820
1998/3	1,020-1,155	505-555	1,435-1,575	1,080-1,170	770-820
1998/4	1,010-1,145	485-535	1,460-1,600	1,110-1,200	740-810
1998 avg.	1,061	541	1,394	1,136	798
1999/1	1,000-1,130	470-520	1,500-1,640	1,140-1,230	710-780
1999/2	1,000-1,130	485-535	1,560-1,700	1,115-1,205	710-780
1999/3	990-1,135	490-540	1,580-1,720	1,150-1,240	720-790
1999/4	990-1,145	540-590	1,590-1,730	1,320-1,410	760-830
1999 avg.	1,066	514	1,610	1,199	762

Source: Weekly Hardwood Review, Charlotte, NC.

## HARDWOOD PRODUCT PRICES, PRODUCTION, AND EMPLOYMENT

**Table 13.--Producer price indexes for selected wood industries, 1994-99**  
(1982=100)

Year/ quarter	Hardwood Lumber	Hardwood dimension	Wood kitchen cabinets	Wood household furniture	Upholstered wood household furniture	Wood office furniture	All commodities
1994	168.3	170.2	140.7	150.2	134.3	145.6	120.4
1995	167.0	173.8	146.5	155.2	137.0	149.6	124.7
1996	163.9	173.1	150.4	158.3	140.0	153.5	127.7
1997	174.1	178.5	153.9	160.7	141.7	160.6	127.6
1998/1	179.6	180.8	156.2	162.7	142.7	163.0	125.0
1998/2	179.7	180.5	156.8	163.6	143.2	163.8	124.9
1998/3	178.7	180.7	157.2	164.0	143.8	164.7	124.3
1998/4	176.9	181.6	157.5	165.6	144.2	165.3	123.5
1998 avg.	178.7	180.9	156.9	164.0	143.5	164.2	124.4
1999/1	175.6	182.4	158.1	166.6	144.6	165.9	122.6
1999/2	176.5	182.7	159.1	167.1	144.5	166.6	124.5
1999/3	176.6	183.0	160.4	167.7	145.2	168.1	126.9
1999/4	180.5	183.8	161.2	168.6	146.3	168.8	127.9
1999 avg.	177.3	183.0	159.7	167.5	145.2	167.3	125.5

Source: Producer Price Indexes, U.S. Department of Labor, Bureau of Labor Statistics.

**Table 14.—Value of domestic wood furniture shipments and wood furniture imports, 1992-97**  
(Millions of dollars)

Year	Value of <sup>1</sup> domestic wood furniture shipments (actual \$)	Value of <sup>2</sup> domestic wood furniture shipments (1982 \$)	Value of <sup>3</sup> wood furniture imports (actual \$, c.i.f.)	Value of wood <sup>2</sup> furniture imports (1982 \$, c.i.f.)	Ratio of <sup>4</sup> imports to domestic production
1992	8,730.4r	6,294r	2,884	2,079	.33
1993	9,267.2r	6,440r	3,381r	2,350r	.36
1994	9,221.2r	6,605r	4,050	2,696	.41
1995	10,241.5r	6,599r	4,451	2,868	.43r
1996	10,517.4r	6,644r	4,970	3,140	.47r
1997	10,929.3r	6801	5,766	3,588	.53

r - revised figure.

<sup>1</sup> Source: U.S. Department of Commerce

<sup>2</sup> Deflated by wood household furniture price index listed in Table 13.

<sup>3</sup> Source: U.S. Department of Commerce, Bureau of the Census.

<sup>4</sup> Developed from columns 1 and 3.

**Table 15.—Production of oak strip flooring,  
1994-99**

Year	Oak strip flooring (M feet)
1994	307,689
1995	330,212
1996	367,465
1997	416,618
1998	448,971
1999	536,073

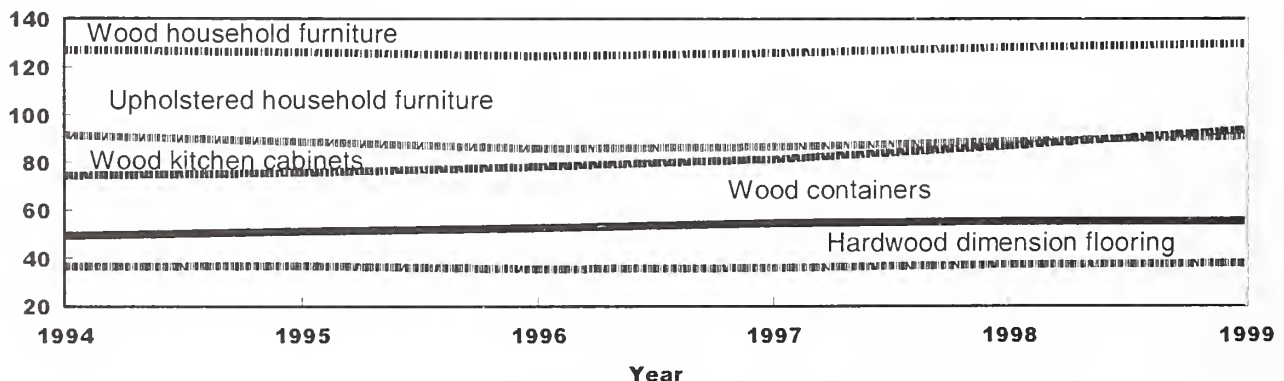
Source: National Oak Flooring Manufacturers Association statistics.

**Table 16.—Employment in selected wood-using industries, 1994-99  
(Thousands)**

Year/quarter	Wood containers (SIC 244)	Upholstered household furniture (SIC 2512)	Wood household furniture (SIC 2511)	Wood kitchen cabinets (SIC 2434)	Hardwood dimension and flooring (SIC 2426)
1994	49.3	91.6	127.3	74.7	36.7
1995	51.2	88.8	126.3	76.0	36.9
1996	52.4	85.9	124.8	78.4	35.5
1997	54.5	86.6	126.1	81.4	36.1
1998/1	55.6	88.6	127.8	83.6	36.8
1998/2	55.7	89.1	129.2	85.9	37.1
1998/3	54.9	88.5	128.1	88.4	37.5
1998/4	54.7	89.5	129.6	90.2	37.9
1998 avg.	55.2	88.9	128.7	87.0	37.3
1999/1	54.9	89.8	129.8	90.7	37.8
1999/2	55.1	91.0	129.7	92.8	37.5
1999/3	55.0	91.4	129.6	95.4	37.8
1999/4	54.9	92.0	130.5	96.3	38.3
1999 avg.	55.0	91.0	129.9	93.8	37.9

Source: U.S. Department of Labor.

Thousands



Employment in selected wood-using industries, 1994-1999.

# INTERNATIONAL HARDWOOD PRODUCT TRADE

**Table 17.—International exchange rate, foreign currency per U.S. dollar, 1994-99**

Year/qtr.	Belgium (franc)	Brazil (real)	Canada (dollar)	China (yuan)	France (franc)	Germany (mark)	Hong Kong (H.K. \$)	Italy (lira)
1994	33.434	NA	1.3659	8.6401	5.5467	1.6219	7.7290	1,611.7
1995	29.493	.09174	1.3727	8.3709	4.9889	1.4331	7.7357	1,628.9
1996	30.968	1.0052	1.3637	8.3387	5.1158	1.5048	7.7345	1,542.6
1997	35.789	1.0779	1.3849	8.3193	5.8361	1.7339	7.7430	1,703.0
1998/1	37.553	1.1269	1.4303	8.3081	6.0944	1.8187	7.7432	1,791.7
1998/2	37.007	1.1476	1.4468	8.3081	6.0143	1.7938	7.7486	1,769.5
1998/3	36.323	1.1712	1.5144	8.3085	5.9054	1.7612	7.7486	1,738.1
1998/4	34.320	1.1958	1.5430	8.2779	5.5776	1.6635	7.7462	1,646.4
	36.301	1.1604	1.4836	8.3006	5.8979	1.7593	7.7466	1,736.4
1999/1	35.957	1.7813	1.5116	8.2779	5.8467	1.7433	7.7490	1,725.8
1999/2	38.173	1.7182	1.4729	8.2786	6.2073	1.8508	7.7534	1,832.3
1999/3	38.457	1.8623	1.4864	8.2774	6.2533	1.8645	7.7635	1,845.9
1999/4	38.880	1.9148	1.4724	8.2784	6.3221	1.8850	7.7714	1,866.2
1999 avg.	37,867	1.8192	1.4858	8.2781	6.1574	1.8359	7.7593	1,817.6

Year/qtr.	Japan (yen)	Malaysia (ringgit)	Mexico (peso)	Singapore (S.dollar)	South Africa (rand)	South Korea (won)	Spain (pesetas)	U.K. (pound)
1994	102.19	2.6244	3.38	1.5275	3.5517	806.92	133.89	0.653
1995	94.11	2.5080	6.44	1.4176	3.6276	772.90	124.68	0.634
1996	108.81	2.5158	7.60	1.4099	4.3004	805.16	126.68	0.641
1997	121.09	2.8178	7.92	1.4857	4.6081	953.15	146.45	0.611
1998/1	128.16	3.9899	8.43	1.6725	4.9500	1,608.36	154.16	0.608
1998/2	135.66	3.8529	8.67	1.6441	5.1765	1,396.12	152.33	0.605
1998/3	139.98	4.0559	9.50	1.7294	6.2150	1,328.53	149.54	0.605
1998/4	119.47	3.8005	10.01	1.6424	5.7844	1,283.79	141.45	0.597
1998 avg.	130.82	3.9248	9.15	1.6721	5.5315	1,404.20	149.37	0.604
1999/1	116.48	3.8000	9.96	1.7029	6.1071	1,197.89	148.30	0.612
1999/2	120.83	3.8000	9.45	1.7121	6.1292	1,192.26	157.45	0.623
1999/3	113.15	3.8000	9.37	1.6903	6.1016	1,196.14	158.62	0.624
1999/4	104.40	3.8000	9.47	1.6734	6.1319	1,173.02	160.36	0.613
1999 avg.	113.72	3.8000	9.56	1.6947	6.1175	1,189.83	156.18	0.618

NA - Not available.

Source: Federal Reserve Bank of St. Louis and Federal Reserve Board of Governors



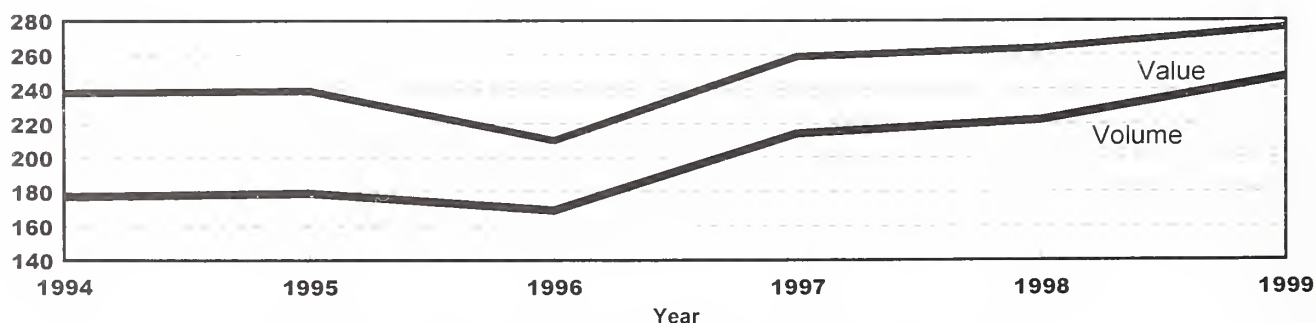
**Table 18.—Volume and value of U.S. hardwood log exports, by region, 1994-99**  
(Cubic meters and thousands of dollars, f.a.s.)

Year/qtr.	Canada		Central & South America and Caribbean		Western Europe	
	Volume	Value	Volume	Value	Volume	Value
1994	710,078	89,685	18,546	6,686	209,276	88,937
1995	769,115	98,818	9,924	4,249	175,673	77,016
1996	731,598	86,852	10,897	4,022	139,267	57,415
1997	973,348	119,098	19,108	7,803	181,380	74,850
1998/1	265,868	35,401	5,299	2,185	65,358	28,887
1998/2	246,898	33,042	3,570	1,428	50,320	22,616
1998/3	271,923	31,465	3,811	1,969	22,063	10,782
1998/4	298,199	36,619	4,606	2,006	60,906	25,619
Total 1998	1,082,888	136,527	17,286	7,587	198,647	87,903
1999/1	364,193	42,915	5,096	1,629	60,740	26,396
1999/2	285,380	34,118	4,578	1,976	55,175	26,484
1999/3	289,464	32,947	5,960	2,140	19,683	10,059
1999/4	297,610	36,904	6,273	2,282	55,092	23,678
Total 1999	1,236,647	146,884	21,907	8,027	190,690	86,617

Year/qtr.	Asia		All other		Total	
	Volume	Value	Volume	Value	Volume	Value
1994	250,545	94,285	5,573	2,225	1,194,018	281,819
1995	254,395	101,376	2,127	701	1,211,234	282,159
1996	263,746	99,784	759	301	1,146,627	248,373
1997	271,016	103,944	2,741	565	1,447,593	306,260
1998/1	72,618	28,699	458	82	409,601	95,253
1998/2	55,857	22,257	684	165	357,329	79,508
1998/3	19,982	8,130	57	34	317,836	52,380
1998/4	50,330	20,558	274	161	414,315	84,963
Total 1998	198,787	79,644	1,473	442	1,499,081	312,104
1999/1	71,673	26,517	901	494	502,603	97,951
1999/2	72,267	25,821	476	332	417,876	88,731
1999/3	21,297	8,051	766	356	337,170	53,553
1999/4	55,998	22,875	645	363	415,618	86,103
Total 1999	221,235	83,264	2,788	1,545	1,673,267	326,338

Source: U.S. Department of Commerce, Bureau of the Census.

1987 = 100



Volume and value index of all U.S. hardwood log exports, 1994-1999.



**Table 19.--Volume and value of U.S. hardwood lumber exports, by region, 1994-99**  
(Cubic meters and thousands of dollars, f.a.s.)

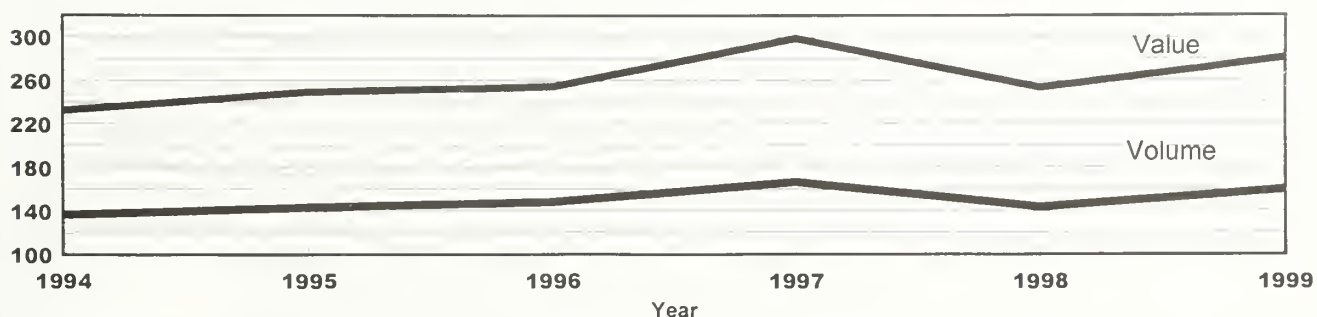
Year/qtr.	Canada		Central & South America and Caribbean		Western Europe	
	Volume	Value	Volume	Value	Volume	Value
1994	762,734	253,617	141,505	55,540	745,828	436,218
1995	792,871	257,536	162,041	60,576	738,626	458,409
1996	826,421	261,974	189,335	72,827	729,924	460,988
1997	902,051	331,544	178,757	71,538	918,843	566,264
1998/1	217,023	79,855	45,025	18,238	236,800	145,353
1998/2	203,633	76,035	56,496	22,062	221,604	137,138
1998/3	188,006	69,712	57,588	24,008	176,669	111,316
1998/4	203,240	75,836	48,436	20,886	201,455	126,969
Total 1998	811,902	301,438	207,545	85,194	836,528	520,776
1999/1	241,809	86,561	54,671r	23,798r	204,987r	130,115r
1999/2	247,340	88,997	56,520	25,107	212,189	134,124
1999/3	225,612	84,102	64,042	26,802	179,125	112,874
1999/4	235,828	88,181	61,795	24,944	204,701	130,655
Total 1999	950,589	347,841	237,028	100,651	801,002	507,768

Year/qtr.	Asia		All other		Total	
	Volume	Value	Volume	Value	Volume	Value
1994	640,686	333,592	51,023	28,694	2,341,776	1,107,659
1995	715,575	380,197	57,127	30,089	2,466,240	1,186,811
1996	736,854	377,847	65,541	35,119	2,548,075	1,208,754
1997	788,020	408,338	75,266	43,287	2,862,937	1,420,971
1998/1	125,086	62,844	14,445	8,779	638,379	315,069
1998/2	129,759	62,852	15,475	8,738	626,967	306,825
1998/3	136,534	65,351	11,291	6,549	570,088	276,936
1998/4	164,508	76,549	13,065	7,810	630,704	308,051
Total 1998	555,887	267,596	54,276	31,876	2,466,138	1,206,880
1999/1	149,813	76,310	10,956	6,753	662,236	323,538
1999/2	182,241	87,682	11,496	7,383	709,786	343,294
1999/3	192,343	94,655	16,193	9,428	677,315	327,861
1999/4	178,689	88,686	12,210	7,273	693,223	339,739
Total 1999	703,086	347,333	50,855	30,837	2,742,560	1,334,432

r - revised

Source: U.S. Department of Commerce, Bureau of the Census.

1987 = 100



Volume and value index of all U.S. hardwood lumber exports, 1994-1999.

**Table 20.--Volume and value of U.S. hardwood veneer exports, by region, 1994-99**  
(Million square meters and thousands of dollars, f.a.s.)

Year/qtr.	Canada		Central & South America and Caribbean		Western Europe	
	Volume	Value	Volume	Value	Volume	Value
1994	31.5	41,836	9.2	11,674	128.8	160,231
1995	33.6	42,405	9.1	12,053	141.4	182,733
1996	40.3	55,014	7.9	10,722	140.5	175,426
1997	52.0	73,034	12.1	14,456	143.6	190,785
1998/1	16.5	23,026	2.3	3,250	32.8	43,944
1998/2	15.5	22,176	2.1	2,942	36.0	47,448
1998/3	12.9	18,322	2.0	2,734	31.6	42,067
1998/4	13.8	19,180	2.5	3,431	37.3	51,341
Total 1998	58.8	82,705	9.0	12,357	137.7	184,799
1999/1	17.4	24,148	2.1	3,107	31.7	43,615
1999/2	18.5	25,253	2.9	3,877	36.1	47,973
1999/3	17.4	23,987	2.1	2,873	29.9	39,800
1999/4	21.4	28,815	3.9	5,036	34.4	46,424
Total 1999	74.7	102,203	11.0	14,893	132.1	177,812

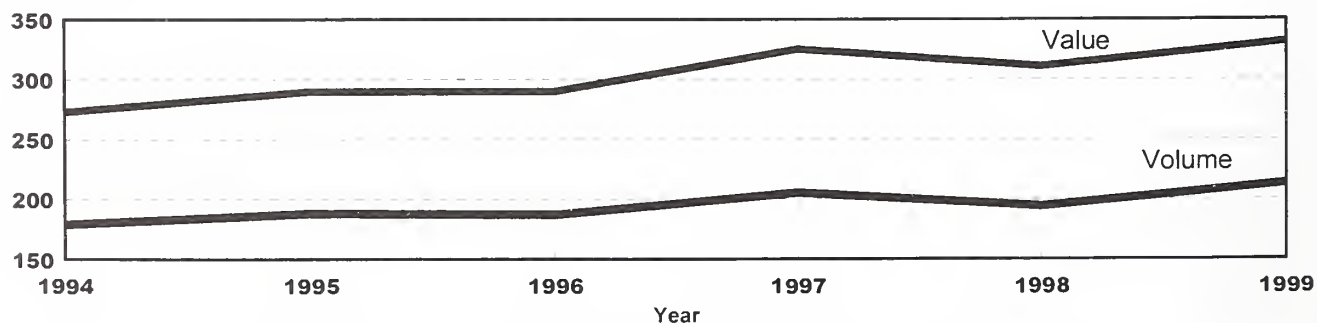
  

Year/qtr.	Asia		All other		Total	
	Volume	Value	Volume	Value	Volume	Value
1994	53.0	61,390	7.8	9,289	230.2	284,423
1995	45.7	56,694	11.3	13,864	241.2	307,749
1996	41.7	54,490	9.8	12,353	240.2	308,008
1997	45.4	66,564	10.3	12,580	263.5	357,418
1998/1	7.8	10,224	1.4	1,775	60.9	82,219
1998/2	10.9	14,616	2.4	3,134	67.0	90,316
1998/3	8.4	10,630	2.1	2,509	57.1	76,262
1998/4	8.9	11,485	2.4	3,057	64.9	88,495
Total 1998	36.1	46,955	8.4	10,475	249.9	337,291
1999/1	7.5	9,362	2.3	2,735	61.0	82,967r
1999/2	10.9	13,543	2.7	3,110	71.0	93,756
1999/3	12.0	15,235	2.0	2,167	63.4	84,061
1999/4	15.6	21,088	3.6	4,167	79.0	105,529
Total 1999	46.0	59,228	10.6	12,179	274.4	366,313

r - revised

Source: U.S. Department of Commerce, Bureau of the Census.

1987 = 100



Volume and value index of all U.S. hardwood veneer exports, 1994 -1999.

**Table 21.--Volume and value of U.S. hardwood plywood exports, by region, 1994-99**  
(Cubic meters and thousands of dollars, f.a.s.)

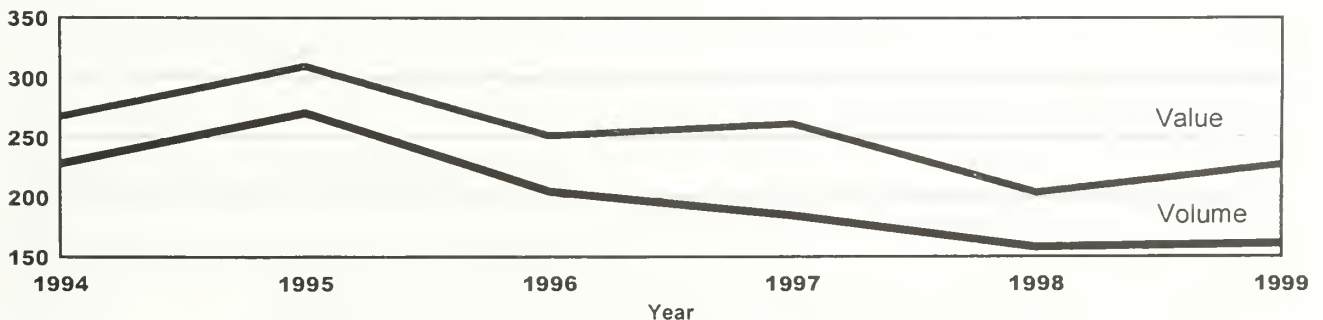
Year/qtr.	Canada		Central & South America and Caribbean		Western Europe	
	Volume	Value	Volume	Value	Volume	Value
1994	57,720	17,082	38,323	10,780	2,590	2,152
1995	80,503	23,657	28,036	8,623	5,563	3,901
1996	68,628	23,946	26,678	8,478	1,154	611
1997	59,500	23,930	23,617	8,298	5,513	1,505
1998/1	17,495	5,963	4,693	1,594	484	127
1998/2	16,126	5,427	4,244	1,731	261	83
1998/3	11,659	4,051	5,278	1,988	116	36
1998/4	11,662	3,986	5,439	1,944	50	17
Total 1998	56,942	19,427	19,654	7,257	911	263
1999/1	10,734	4,213	9,036	3,298	90	20
1999/2	14,030	5,793	8,733	3,026	905	210
1999/3	15,056	5,868	6,574	2,497	213	84
1999/4	10,216	4,210	5,961	2,340	71	23
Total 1999	50,036	20,084	30,304	11,161	1,279	337

Year/qtr.	Asia		All other		Total	
	Volume	Value	Volume	Value	Volume	Value
1994	19,884	8,471	1,415	408	119,932	38,896
1995	28,464	8,693	657	256	143,223	45,133
1996	9,418	3,078	2,389	442	108,267	36,558
1997	7,732	4,028	1,188	288	97,550	38,049
1998/1	1,148	522	241	56	24,061	8,263
1998/2	1,588	874	208	48	22,427	8,164
1998/3	966	523	373	97	18,392	6,695
1998/4	997	525	58	23	18,206	6,495
Total 1998	4,699	2,444	880	224	83,086	29,616
1999/1	592	382	229	126	20,681	8,039
1999/2	745	328	58	19	24,471	9,377
1999/3	981	296	0	0	22,824	8,746
1999/4	273	186	141	39	16,662	6,798
Total 1999	2,591	1,192	428	184	84,638	32,960

Source: U.S. Department of Commerce, Bureau of the Census.

1987 = 100



Volume and value index of all U.S. hardwood plywood exports, 1994-1999.

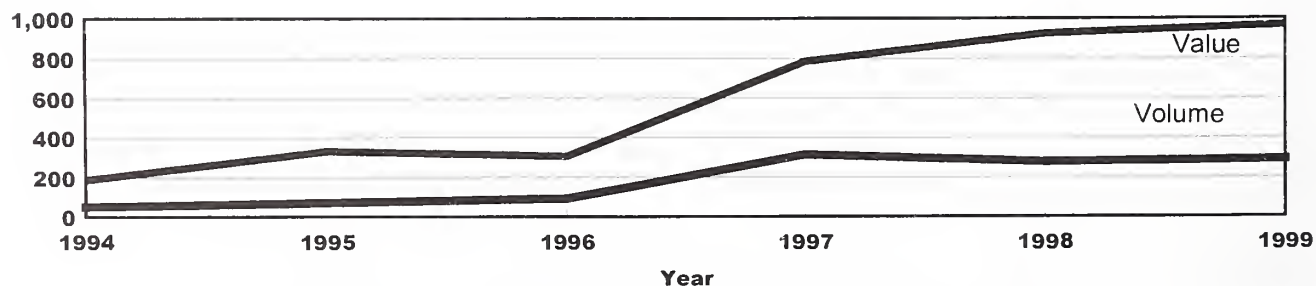
**Table 22.--Volume and value of U.S. hardwood log imports, by region, 1994-99**  
(Cubic meters and thousands of dollars, c.i.f.)

Year/qtr.	Canada		Central & South America and Caribbean		Africa	
	Volume	Value	Volume	Value	Volume	Value
1994	26,081	3,947	1,236	505	1,661	567
1995	40,913	7,218	346	89	957	413
1996	56,333	10,153	591	158	0	0
1997	187,856	24,710	3,751	1,235	855	698
1998/1	64,309	10,734	1,109	300	427	59
1998/2	46,886	7,442	1,323	440	200	69
1998/3	22,749	4,933	865	287	66	42
1998/4	29,896	6,486	2,604	342	123	83
Total 1998	163,840	29,594	5,901	1,368	816	253
1999/1	50,241	8,696	4,329	348	385	139
1999/2	37,693	7,237	1,267	403	375	124
1999/3	33,064	6,374	1,178	392	340	139
1999/4	46,480	8,478	539	229	359	165
Total 1999	167,478	30,785	7,313	1,372	1,459	567

Year/qtr.	Asia and Pacific Ocean		All other		Total	
	Volume	Value	Volume	Value	Volume	Value
1994	2,377	1,309	588	487	31,943	6,813
1995	1,818	3,719	1,003	572	45,037	12,014
1996	283	147	1,607	627	58,814	11,084
1997	635	398	3,815	1,487	196,912	28,529
1998/1	112	23	588	376	66,545	11,492
1998/2	76	99	637	423	49,122	8,472
1998/3	201	286	430	416	24,311	5,964
1998/4	345	162	789	641	33,757	7,713
Total 1998	734	569	2,444	1,857	173,735	33,642
1999/1	96	81	2,117	413	57,168	9,677
1999/2	375	347	471	424	40,181	8,534
1999/3	270	341	551	297	35,403	7,542
1999/4	181	165	748	410	48,307	9,447
Total 1999	922	934	3,887	1,544	181,059	35,200

Source: U.S. Department of Commerce, Bureau of the Census.

1987 = 100



Volume and value index of all U.S. hardwood log imports, 1994-1999.

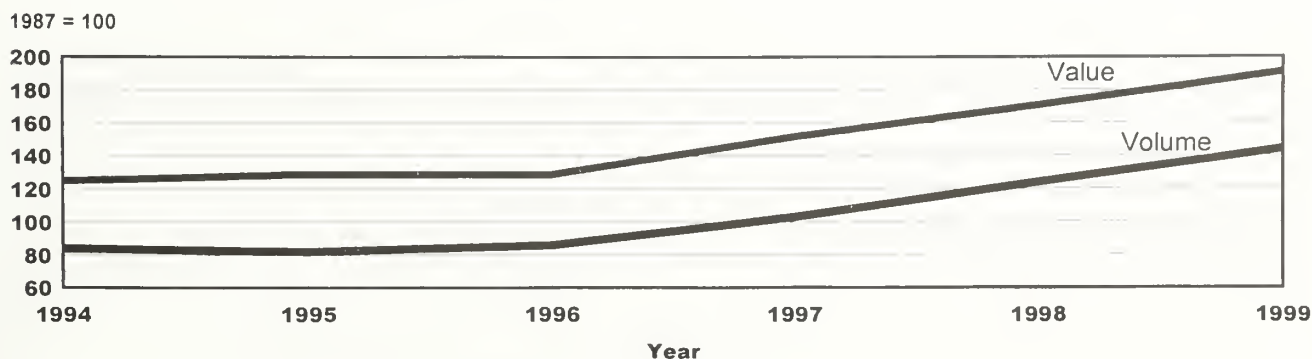
**Table 23.--Volume and value of U.S. hardwood lumber imports, by region, 1994-99**  
(Cubic meters and thousands of dollars, c.i.f.)

Year/qtr.	Canada		Central & South America and Caribbean		Africa	
	Volume	Value	Volume	Value	Volume	Value
1994	549,342	130,835	220,647	111,143	12,859	5,820
1995	496,266	117,122	249,044	133,422	11,074	7,936
1996	547,729	132,162	220,355	119,595	26,683	11,927
1997	710,436	176,154	214,958	114,149	28,971	16,309
1998/1	208,294	49,766	54,899	35,277	6,969	3,915
1998/2	221,396	52,030	51,824	24,425	10,194	5,411
1998/3	233,082	50,796	75,581	36,114	8,128	5,962
1998/4	262,663	54,266	69,536	42,790	7,834	4,118
Total 1998	925,435	206,859	251,840	138,606	33,125	19,406
1999/1	287,530	60,508	68,614r	34,123r	6,838	4,292
1999/2	253,862	57,593	59,560r	34,197r	9,002	5,199
1999/3	277,180	62,953	59,831	32,422	8,165	4,795
1999/4	284,070	64,893	69,068	42,888	6,131	3,868
Total 1999	1,102,642	245,947	257,073	143,630	30,136	18,154

Year/qtr.	Asia and Pacific Ocean		All other		Total	
	Volume	Value	Volume	Value	Volume	Value
1994	96,014	65,670	12,587	6,177	891,449	319,651
1995	91,396	67,649	15,263	4,202	863,043	330,329
1996	100,228	62,501	15,010	4,784	910,005	330,968
1997	111,367	79,676	18,675	4,075	1,084,407	390,363
1998/1	23,711	17,380	1,490	1,093	295,363	107,432
1998/2	22,006	16,125	1,812	874	307,232	98,865
1998/3	25,681	18,607	4,506	1,280	346,978	112,759
1998/4	21,539	15,497	2,712	1,221	364,284	117,893
Total 1998	92,937	67,610	10,520	4,469	1,313,857	436,949
1999/1	25,801	17,472	2,635	919	391,418	117,314
1999/2	23,441	19,134	8,118	1,037	353,983	117,159
1999/3	35,633	19,986	4,904	2,278	385,713	122,434
1999/4	26,726	19,844	3,888	1,682	389,883	133,176
Total 1999	111,601	76,436	19,545	5,916	1,520,997	490,083

r - revised

Source: U.S. Department of Commerce, Bureau of the Census.



Volume and value index of all U.S. hardwood lumber imports, 1994-1999.



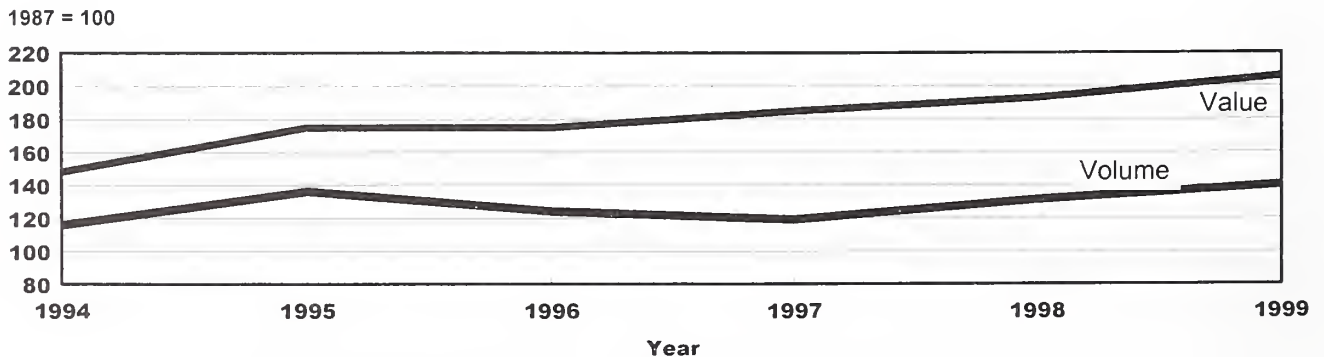
**Table 24.--Volume and value of U.S. hardwood veneer imports, by region, 1994-99**  
(Million square meters and thousands of dollars, c.i.f.)

Year/qtr.	Canada		Central & South America and Caribbean		Africa	
	Volume	Value	Volume	Value	Volume	Value
1994	113.4	129,789	38.5	40,882	3.4	6,346
1995	110.2	143,695	53.5	51,534	10.6	13,999
1996	110.6	153,306	47.3	49,948	15.9	17,516
1997	115.9	163,271	34.8	45,904	12.7	15,369
1998/1	30.3	41,602	7.9	10,069	3.3	5,530
1998/2	32.7	43,463	11.3	14,592	3.6	5,352
1998/3	29.1	38,853	8.4	10,149	8.7	6,995
1998/4	30.1	39,535	5.2	8,340	4.7	4,892
Total 1998	122.3	163,452	32.7	43,149	20.3	22,770
1999/1	36.6	48,677	5.7	7,246	4.6	5,035
1999/2	36.5	50,525	7.4	8,500	7.2	7,042
1999/3	30.3	40,865	9.3	10,210	7.7	8,102
1999/4	30.4	43,151	9.3	11,713	6.7	7,761
Total 1999	133.8	183,218	31.7	37,669	26.2	27,940

Year/qtr.	Asia and Pacific Ocean		All other		Total	
	Volume	Value	Volume	Value	Volume	Value
1994	11.0	13,797	14.1	33,304	180.8	224,117
1995	25.0	25,354	12.8	30,822	212.1	265,399
1996	10.3	12,662	10.4	31,544	194.5	264,975
1997	8.9	12,338	13.0	43,399	185.3	280,281
1998/1	1.6	2,806	4.9	9,028	48.0	69,034
1998/2	4.3	4,118	4.4	13,051	56.3	80,576
1998/3	4.5	5,067	3.0	10,348	53.7	71,411
1998/4	3.4	4,149	4.0	14,152	47.4	71,069
Total 1998	13.8	16,140	16.4	46,579	205.4	292,090
1999/1	3.0	4,159	3.0	10,443	53.1	75,560
1999/2	3.1	3,760	3.6	12,599	57.8	82,426
1999/3	2.2	3,311	4.3	13,857	53.9	76,344
1999/4	2.7	3,313	4.7	11,732	53.7	77,670
Total 1999	11.0	14,543	15.6	48,631	218.5	312,000

Source: U.S. Department of Commerce, Bureau of the Census.





**Table 25.--Volume and value of U.S. hardwood plywood imports, by region, 1994-99**  
(Cubic meters and thousands of dollars, c.i.f.)

Year/qtr.	Canada		Central & South America and Caribbean		Africa	
	Volume	Value	Volume	Value	Volume	Value
1994	156,969	71,209	366,644	140,830	405	196
1995	179,327	82,083	361,577	147,184	0	0
1996	214,509	93,196	347,185	145,442	1,689	627
1997	253,286	116,947	350,048	140,644	152	114
1998/1	70,164	34,134	56,078	21,861	0	0
1998/2	73,239	35,642	45,485	18,111	853	531
1998/3	59,007	30,468	39,700	15,125	28	4
1998/4	69,839	33,785	44,309	17,202	0	0
Total 1998	272,249	134,029	185,572	72,300	881	534
1999/1	72,549	37,230	51,071	19,160	0	0
1999/2	75,312	40,360	65,462	24,618	290	119
1999/3	74,663	39,533	86,331	27,668	210	83
1999/4	74,666	40,347	72,940	25,602	1,119	457
Total 1999	297,190	157,470	275,804	97,048	1,619	659

Year/qtr.	Asia and Pacific Ocean		All other		Total	
	Volume	Value	Volume	Value	Volume	Value
1994	833,992	493,756	89,245	39,568	1,447,255	745,561
1995	992,080	473,331	131,124	53,535	1,664,108	756,133
1996	1,001,738	501,683	179,202	64,933	1,744,323	805,879
1997	923,270	444,287	180,367	70,629	1,707,123	772,622
1998/1	274,872	122,479	40,146	19,092	441,260	197,567
1998/2	286,252	109,310	66,668	29,521	472,497	193,114
1998/3	323,211	106,346	57,138	24,639	479,084	176,581
1998/4	333,558	103,127	39,628	17,808	487,334	171,923
Total 1998	1,217,893	441,262	203,580	91,060	1,880,175	739,185
1999/1	304,938	109,947	44,758	18,992	473,316	185,330
1999/2	329,354	133,299	86,613	36,767	557,031	235,163
1999/3	350,224	148,258	82,264	29,837	593,692	245,379
1999/4	227,160	102,261	70,954	26,086	446,839	194,753
Total 1999	1,211,676	493,765	284,589	111,682	2,070,878	860,625

Source: U.S. Department of Commerce, Bureau of the Census.



Volume and value index of all U.S. hardwood plywood imports, 1994-1999.

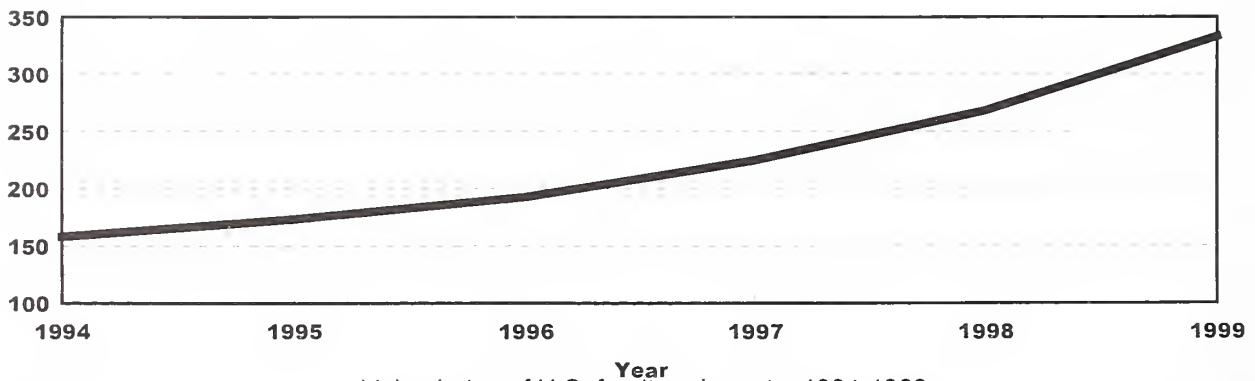
**Table 26.--Value of U.S. wood furniture imports, by region, 1994-99**  
(Thousands of dollars, c.i.f.)

Year/qtr.	Canada	Caribbean, South, and Central America	Europe	Asia, Middle east, and Pacific	All other	Total
1994	753,590	347,697	941,112	1,993,394	14,546	4,050,339
1995	899,350	411,731	1,042,945	2,080,382	16,600	4,451,008
1996	1,159,725	507,665	1,074,415	2,199,756	28,093	4,969,654
1997	1,460,377	629,273	1,190,400	2,458,208	27,331	5,765,589
1998/1	415,769	163,799	307,983	632,234	8,429	1,528,215
1998/2	448,229	174,475	349,130	713,403	8,626	1,693,863
1998/3	451,614	173,938	338,927	745,418	9,212	1,719,108
1998/4	469,708	189,244	397,461	864,160	8,162	1,928,735
Total 1998	1,785,320	701,456	1,393,502	2,955,214	34,429	6,869,921
1999/1	473,685	181,139	374,780r	812,139r	7,863	1,849,606
1999/2	508,278	189,357	402,016	895,840	8,583	2,004,074
1999/3	577,255	213,470	408,834	1,045,624	7,712	2,252,895
1999/4	613,792	216,333	450,744	1,154,830	8,208	2,443,907
Total 1999	2,173,010	800,299	1,636,374	3,908,433	32,366	8,550,482

r - revised

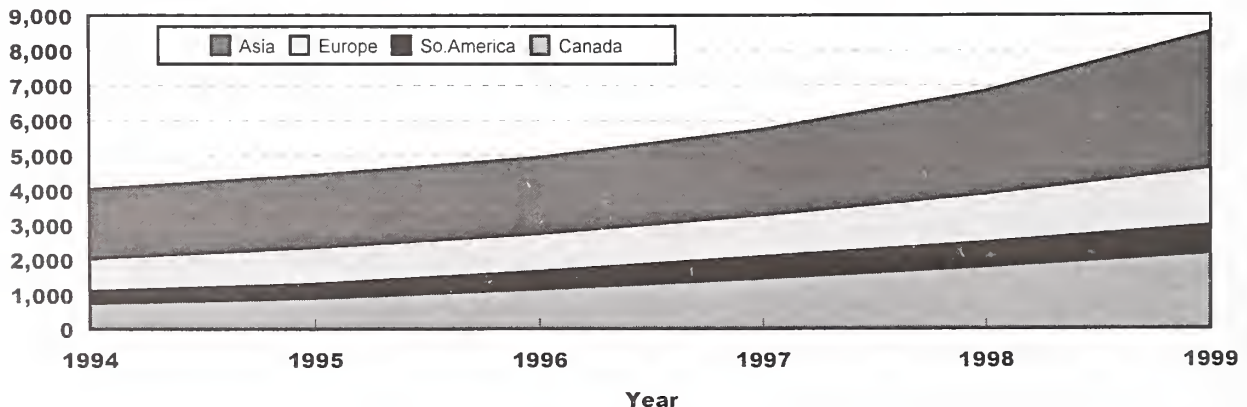
Source: U.S. Department of Commerce, Bureau of the Census.

1987 = 100



Value index of U.S. furniture imports, 1994-1999.

Millions of dollars



Value of U.S. furniture imports, by region, 1994-1999.

**Table 27.--Volume and value of U.S. exports of nonconiferous chips, by region, 1994-99**  
(Tons and thousands of dollars, f.a.s.)

Year/qtr.	Western Europe		Canada		Japan		Mexico	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
1994	728	923	248,845	9,562	2,649,198	230,564	1,442	60
1995	NA	1,218	284,126	12,007	3,031,485	299,663	18	20
1996	312	106	210,320	8,641	3,845,584	344,898	35	18
1997	1,753	174	294,811	10,520	3,687,410	320,192	107	62
1998/1	934	82	71,272	2,370	1,014,437	87,784	0	0
1998/2	1,605	268	50,233	1,637	890,562	82,480	0	0
1998/3	1,704	124	71,262	2,423	777,133	71,598	0	0
1998/4	816	90	75,769	2,401	884,486	69,955	0	0
Total 1998	5,059	564	268,536	8,831	3,566,618	311,816	0	0
1999/1	1,466	126	62,327	1,989	904,448	79,747	0	0
1999/2	2,726	236	56,874	1,776	798,062	62,803	164	11
1999/3	1,168	218	68,801	2,306	856,637	70,924	0	0
1999/4	2,535	329	62,202	2,126	761,609	64,650	89	83
Total 1999	7,895	909	250,204	8,197	3,320,756	278,124	253	94

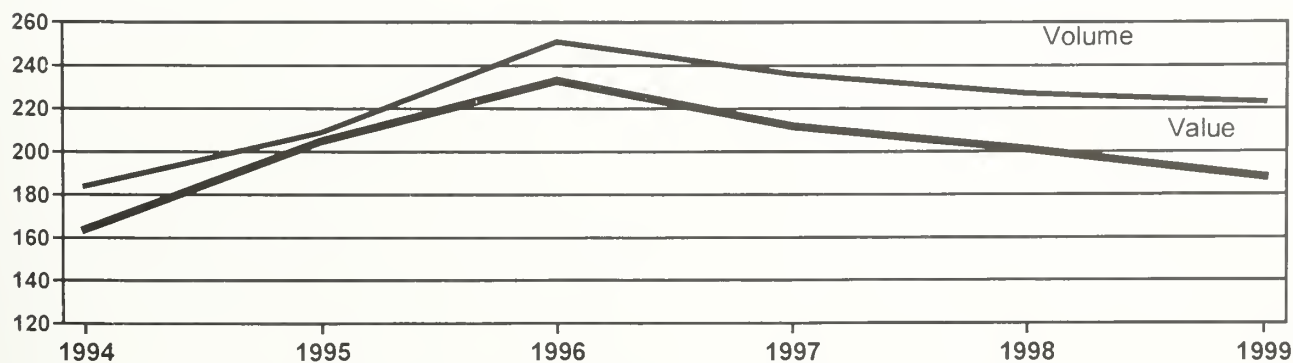
  

Year/qtr.	Taiwan		South Korea		All other		Total	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
1994	0	0	248,635	23,763	1,824	177	3,150,672	265,050
1995	0	0	256,462	17,394	5,084	1,305	3,579,398	331,607
1996	61,268	6,127	176,047	17,599	8,045	331	4,301,611	377,718
1997	0	0	58,807	11,207	8,555	947	4,051,443	343,103
1998/1	0	0	26,173	2,683	2,934	784	1,115,750	93,702
1998/2	0	0	0	0	254	171	942,654	84,557
1998/3	0	0	0	0	2,777	141	852,876	74,285
1998/4	0	0	7,217	794	4,737	405	973,025	73,645
Total 1998	0	0	33,390	3,477	10,702	1,502	3,884,305	326,190
1999/1	0	0	75,059	4,485	2,284	364	1,045,584	86,713
1999/2	0	0	23,580	2,143	9,284	704	890,690	67,673
1999/3	0	0	52,941	4,289	1,411	227	980,958	77,964
1999/4	0	0	69,673	4,400	1,331	293	897,439	71,881
Total 1999	0	0	221,253	15,317	14,310	1,588	3,814,671	304,231

NA - Not available

Source: U.S. Department of Commerce, Bureau of the Census.

1989=100



Volume and value index of all U.S. exports of nonconiferous chips, 1994-1999.

## Definition of Terms

c.i.f. (Cost, Insurance, Freight) - The term is used for shipment to designated overseas port of import. The seller quotes a price for the goods, including insurance, all transportation, and miscellaneous charges to the point of debarkation from vessel or aircraft.

f.a.s. (Free Alongside a Ship at designated U.S. port of export) - The seller quotes a price that includes charges for delivery of the goods alongside a vessel at the port. The seller handles the cost of unloading and wharfage. Loading, ocean transportation, and insurance are the buyer's responsibility.

## Useful Conversion Factors

1 MBF (lumber) = 2.36 cubic meters  
1 MBF\* (logs - FAO) = 4.53 cubic meters  
1 MBF\*\* (logs - Doyle scale) = 4.59 cubic meters  
1 MBF\*\* (logs - International 1/4" rule) = 3.48 cubic meters  
1 MBF\*\* (logs - Scribner) = 3.90 cubic meters  
1 cubic meter = 35.32 cubic feet  
1 ton = 2000 lbs.  
1 metric ton = 2204.623 lbs.

\* Factor used by the Food and Agricultural Organization of the United Nations.

\*\* Approximation based on 16-foot log with a 15-inch diameter at the top end inside bark. Actual conversion will depend on the distribution of logs under consideration.

## Literature Cited

Luppold, William G. 1995. Causes and remedies for errors in international forest products trade data: Examples from the hardwood trade statistics. *Forest Science*. 41(2): 278-283.





---

The U. S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202)720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410, or call (202)720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

---

---

MANUSCRIPT RECEIVED FOR PUBLICATION 25 APRIL 2000

---

Published by:  
USDA FOREST SERVICE  
11 CAMPUS BLVD SUITE 200  
NEWTOWN SQUARE PA 19073

June 2000

For additional copies:  
USDA Forest Service  
Publications Distribution  
359 Main Road  
Delaware, OH 43015  
Fax: (740)368-0152

---

Visit our homepage at: <http://www.fs.fed.us/ne>